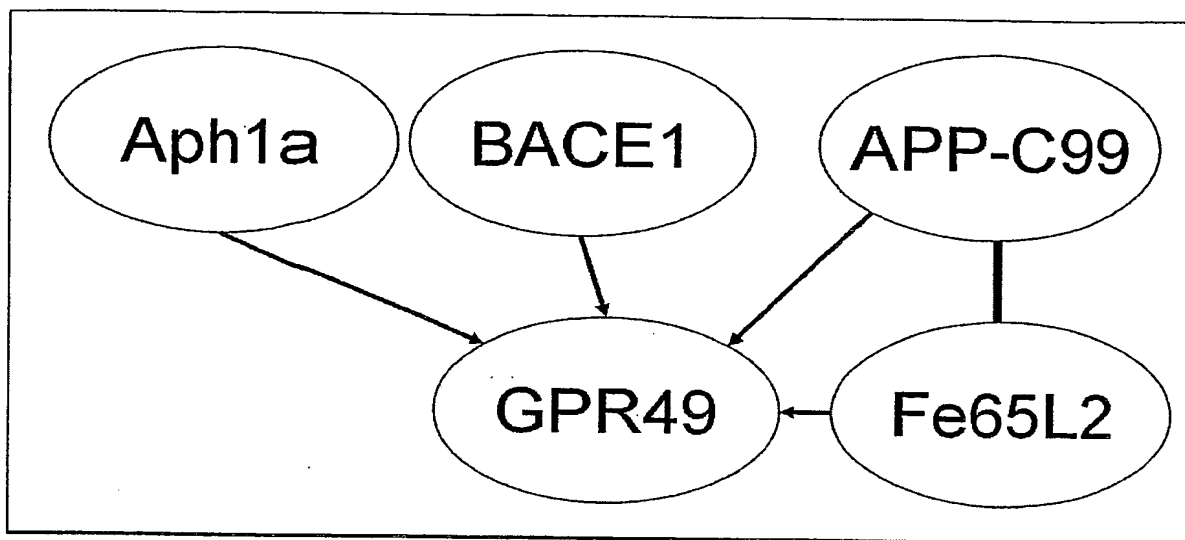
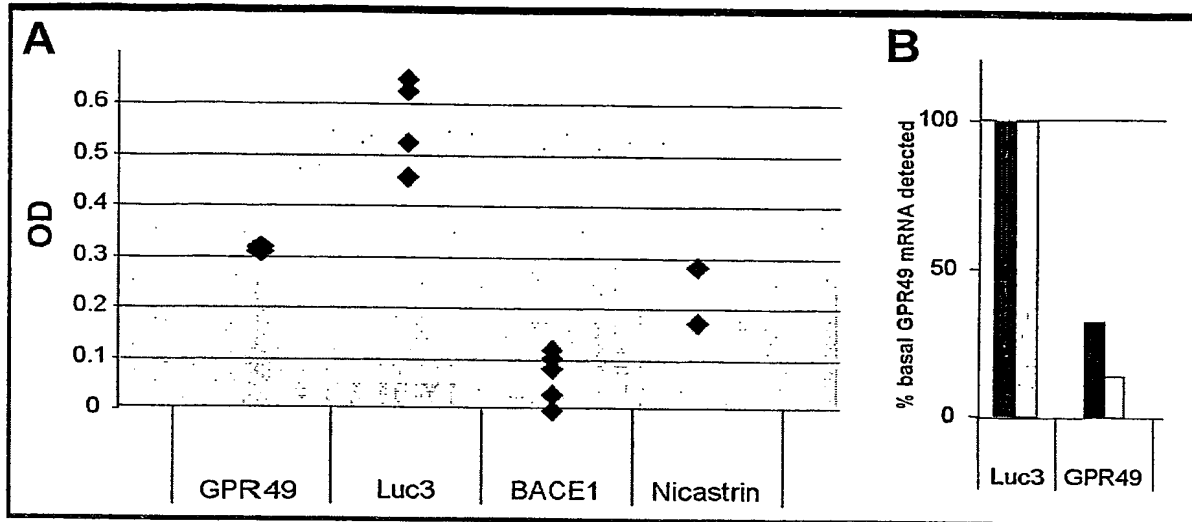


Fig. 1



THIS PAGE BLANK (USPTO)

Fig. 2



THIS PAGE BLANK (USPTO)

Fig. 3

	MDTSRLGVLL	SLPVLLQLAT	GGSSPRSGVL	LRGCPHCHC	EPDGRMLLRV
	DCSDLGLSEL	PSNLSVFTSY	LDLSMNNISQ	LLPNPLPSLR	FLEELRLAGN
5	ALTYIPKGAF	TGLYSLKVLM	LQNNQLRHVP	TEALQNLRS	QSLRLDANHI
	SYVPPSCFSG	LHSLRHLWLD	DNALTEIPVQ	AFRSLSALQA	MTLALNKIHH
	IPDYAFGNLS	SLVVLHLHNN	RIHSLGKKCF	DGLHSLETLD	LNYNLDEFP
	TAIRTLNLK	ELGFHSNNIR	SIPEKAFVGN	PSLITIHFYD	NPIQFVGRSA
	FQHLPELRTL	TLNGASQITE	FPDLTG TANL	ESLTLTGAQI	SSLPQTVCNQ
10	LPNLQVLDLS	YNLLEDLPSF	SVCQKLQKID	LRHNEIYEIK	VDTFQQLLSL
	RSLNLAWNKI	AIIHPNAFST	LPSLIKLDLS	SNLLSSFPIT	GLHGLTHLKL
	TGNHALQSLI	SSENFPELV	IEMPYAYQCC	AFGVCENAYK	ISNQWNKGDN
	SSMDDLHKKD	AGMFQAQDER	DLEDFLDFE	EDLKALHSVQ	CSPSPGPFKP
	CEHLLDGWLI	RIGVWTIAVL	ALTCNALVTS	TVFRSPLYIS	PIKLLIGVIA
15	AVNMLTGVSS	AVLAGVDAFT	FGSFARHGAW	WENGVGCHVI	GFLSIFASES
	SVFLLTLAAL	ERGFSVKYSA	KFETKAPFSS	LKVIILLCAL	LALTMAAVPL
	LGGSKYGASP	LCLPLPFGE	STMGYMVALI	LLNSLCFLMM	TIAYTKLYCN
	LDKGDLENIW	DCSMVKHIAL	LLFTNCILNC	PVAFLSFSSL	INLTFISPEV
	IKFILLVVVP	LPACLNPLLY	ILFNPHFKED	LVSLRKQTYV	WTRSKHPSLM
20	SINSDDVEKQ	SCDSTQALVT	FTSSSITYDL	PPSSVPSPAY	PVTESCHLSS
	VAFVPCL				

THIS PAGE BLANK (USPTO)

Fig. 4 (1/2)

5	LGR5	MDTSRLGVLLSLPVLLQLATGGSSPRSGVLLRGCPHCHCEPDGRMLLRVDCSDLGLSELPSNLSVFTSYLDLSMNNISQ
	LGR6	-----MRLEGEGRSARAGQNLRSAGSARRGAPR-----DLSMNNLTE
	LGR4	-----MPGPIGLLCFLALGLLGSAGPSGAAPPLCAAPCSCDGDRR----VDCSGKGLTAVPEGLSAFTQALDISMNNITQ
	Consensus/80%b.L.h.Gpts.tG.....sss.pps.sc.....DLSMNNI*p
10	LGR5	LLPNPLPSLRFLEELRLAGNALTYIPKGAFTGLYSLKVLMLQNNQLRHVPTEALQNLRLSLQSLRLDANHISYVPPSCFSG
	LGR6	LQPGLFHHLRFLEELRLSGNHLSHIPGQAFSGLYSLKILMLQNNQLGGIPAEALWELPSLQSL-----
	LGR4	LPEDAFKNFPFLEELQLAGNDLSFIHPKALSGLKELKVLTLQNNQLKTPVSEAIRGLSALQSLRLDANHITSVPEDSFEG
	Consensus/80%	L..s.b.pb.FLEELpLtGN.L*aI...Ab*GLbpLKlLhLQNNQL.hlpSEAlb.L.tLQSL.....
15	LGR5	LHSLRHLWLDNALTEIPVQAFRSLSALQAMTLALNKIHHPDYAFGNLSSLVVLHLHNNRIHSLGKKCFDGLHSLETLD
	LGR6	-----D
	LGR4	LVQLRHLWLDNLSLTPVPHPLSNLPTLQALTALNKISSIPDFAFTNLSSLVVLHLHNNKIRSLSQHCFDGLDNLETLD
	Consensus/80%D
20	LGR5	LNYNLDEFPTAIRTLNLKELGFGHSNNIRSIPEKAFVGNPSLITIHFYDNPIQFVGRSAFQHLPELRTLTLNGASQITE
	LGR6	LNYNKLQEFFVAIRTLGRLQELGFGHNNNIKAPEKAFMGNPLLQTIHFYDNPIQFVGRSAFQYLPKLHTLSLNGAMDIOE
	LGR4	LNYNLGEFFQAIALKPSLKELGFGHSNSISVIPDGAFDGNPLRTIHLVDNPLSFVGNLSAFHNLSDLHSLVIRGASMVQQ
	Consensus/80%	LNYNpL.EFP.AI+sLspLpELGFHsNsIpsIP-.AF.GNP.LbTIHbYDNPlpFVGpSAFp.LscL+*LslpGA..lpp
25	LGR5	FPDLTGTANLESILTGAQISSLPQTVCNQLPNLQVLDLSYNLLEDLPSFSVCQKQKIDLRHNEIYEIKVDTFQQLLSL
	LGR6	FPDLKGTTSLEILTLAGIRLLPSPGMCQQLPRLRVLELSHNQIEELPSLHRCQKLEEIGLQHNRIWEIGADTFSQLSSL
	LGR4	FPNLGTGVHLESILTGTKISSIPNNLQEQKMLRTLDLSYNNIRDLPSPFGCHALEEISLQRNIYQIQEGTFQGLISL
	Consensus/80%	FpSLpGTspLE.LTLT.s.Ip.lPpshCpbb..LpsL-LSaN.lc-LPSbp.Cp.LpcIsLp+NpIapI..sTFp.L.SL
30	LGR5	RSINLAWNKIAIHPNAFSTLPSLIKLDLSSNLLSSFPITGLHGLTHLKLGTGNHALQSLISSENFPPELKVIEPIYAYQCC
	LGR6	QALDLSWNAIRSIHPEAFSTLHSLVKLDLTNDQLTTLPLAGLGLMHLKLKGNLALSQAFSKDSFPKLRILEVPIYAYQCC
	LGR4	RILDLSRNLIHEIHSRAFATLGPITNLDVSFNELTSFPTEGLNGLNQLKLVGNFKLKEALAAKDFVNLRSLSVPYAYQCC
	Consensus/80%	p.LsLtbN.I..IHspAftTL.sIhpLDl*.NbL**bPh.GL.GL.pLKL.GNb.Lpphbt.csFspL+.lphPYAYQCC
35	LGR5	AFGVCENAYKISNQWNKGDNS SMDD-LHKKDAGMFQAQDE----RDLEDFLLDFEEDLKALHSVQCSPSPGPFKPCHELL
	LGR6	PYGMCAFFKASGQWEAEDLHLDDDESSKRPLGLLARQAENHYDQDLDELQLEMEDS-KPHPSVQCSPPTPGPFKPCYEYLF
	LGR4	AFWGCDSYANLN----TEDNSLQDHSVAQEKGKCMSTADA-----ANVTSTLENEEHSQIIHCTPSTGAFKPCYEYLL
	Consensus/80%	sahhC.shhphs.....D.p..Dc...pc.h.hb...s.....ph..pbEpp.+sb..lpC*P*sGsFKPCEalb
40	LGR5	DGWLIRIGVWTIAVLALTCNALVTSTVFR-SPLYISPIKLLIGVIAAVNMLTGVSASVLAGVDAFTFGSFARHGAWWENG
	LGR6	ESWGIRLAVWAIIVLLSVLCNGLVLLTVFAGGPVPLPPVKFVVGAAGANTLTGISCGLLASVDALTFGQFSEYGARWETG
	LGR4	GSWMIRLTWVFIFLVALFFNLVLVILTTFA-SCTSLPSSKLFIGLISVSNLFMGIYTGILTFLDAVSWGRFAEFGIWWETG
	Consensus/80%	.tWhIRIsVWhIhltlthhNhLVh.TsF..tsh.lss.KbhlGhItssNhbhGl.stlLs.lDAh*aGpFtcaGhbWESG

continued as Fig. 4 (2/2)

THIS PAGE BLANK (USPTO)

Fig. 4 (2/2)

continued from Fig. 4 (1/2)

5

LGR5 VGCHVIGFLSIFASESSVFLTLAALERGFVSVKYSAKFETKAPFSSSLKVIIILLCALLALTMAAVPLLGGSKYGASPLCLP
LGR6 LGCRATGFLAVLGSEASVLLTLAAVQCSVSVSCVRAYGKSPSLGSRVAGVLGCLALAGLAAALPLASVGEYGASPLCLP
LGR4 SGCKVAGFLAVFSSESAIFLLMLATVERSLSAKDIMKNGKSNHLKQFRVAALLAFLGATVAGCFPLFHRGEYSASPLCLP
Consensus/80% .GC+shGFLt1btSEtt1bLLhLAslppthSsp.....pps.b.ph+shhLhshhhAhhhtshPLh..tcYtASPLCLP

10

LGR5 --LPFGEPSTMGYVMVALILLNSLCFLMMTIAYTKLYCNLDKGDLENIWDCSMVKHIALLLFTNCILNCPVAFLSFSSLIN
LGR6 YAPPEGQPAALGFTVALVMMNSFCFLVAGAYIKLYCDLPRGDFEAVWDCAMVRHVAVLI FADGLLYCPVAFLSFASMLG
LGR4 --FPTGETPSLGFTVTIVLLNSLAFLMAVIYTKLYCNLEKEDLSENSQSSMIKHVAVLI FTNCIFFCPVAFSSFAPLIT
Consensus/80% ...P.GpsssbGahVsLlbbNSbsFLhshhhYhKLYCsL.+Dbp...pstMl+HlAbLiFssslb.CPVAFbSftsbls

15

LGR5 LTFISPEVIKFILLVVVPLPACLNPLLYILFNPHFKEDLVSLRKQTYVWTRSKHPSLMSINSDDVEKQSCDS-----TQ
LGR6 LFPVTPAEAVKSULLLVPLPACLNPLLYLLFNPHFRDDLRLRLRPR-----AGDSGPLAYAAAGELEKSSCDS-----TQ
LGR4 AISISPEIMKSVTLIFFPLPACLNPNVLYVFFNPKFKEDWKLLKRRVTKKSGSVSVSISSQGGCLEQDFYDCGMYSHLQG
Consensus/80% hh.1*PEhhK.lhLlhhPLPACLNPLLYlbFNP+F+-Db..L+.p.....t.pssl...sts..pc..hDs.....p.

20

LGR5 ALVTFSSSITYDLPPS-----SVPSPAYPVTESCHLS-----
LGR6 ALVAFSDVDLILEASEAGRPPGLETYGFPSVTILSCQQPGAPRLEGSHCPEPEGNHFGNPQPSMDGELLRLRAEGSTPAGG
LGR4 NLTVDCCESEFLTKPVSCCKHLIKSHSCPALAVASCQRPEGYWSDCGTQSAHSYADEEDSFVSDSSDQVQACGRACFYQ
Consensus/80% sLsshsssp.hb.h..s.....Ss.pP.h...-ssp.s.....

25

LGR5 -----SVAFVPCL
LGR6 GLSGGGGFQPSGLAFASHV
LGR4 SRGFPLVRYAYNLPRVKD-
Consensus/80%slsbs.p.

30

THIS PAGE BLANK (11/15/2011)